

**ABSTRACT**

**GEOGRAPHICALLY WEIGHTED POISSON REGRESSION (GWPR)  
MODELING FOR NUMBER OF NEW CASES FOR DISEASE LEPROSY  
in BUTON SOUTHEAST SULAWESI, 2013**

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Poisson regression was obtained from the Poisson distribution, which is a theoretical distribution associated with a discrete random variable count, where each event follows the poisson distribution. Leprosy data in Buton is one example of the data count. The main problem of the poisson regression is when applied to the spatial data, the heterogeneity will occur. One impact of the emergence of spatial heterogeneity is regression parameters are varying spatially, so as to solve the problems on data spatial, the spatial modelling is done. Spatial modeling is appropriate for use Geographically Weighted Poisson Regression (GWPR). This study aims to determine the best model on the number of new cases of leprosy in Buton. This study is a non-reactive or unobtrusive method. The research was conducted in Buton Southeast Sulawesi province started from 5 to May 20 2014. The population in this study are all the new data cases of leprosy in Buton District Health Office. The sample in this study was taken by cluster random sampling technique ie the new data cases of leprosy in Buton District Health Office in 2013 with the unit of analysis is each sub-district in Buton District in 2013. The results showed that the Poisson regression models obtained did not meet the Equidispersi assumptions, so other model named the Generalized Poisson Regression (GPR) is used. Geographically Weighted Poisson Regression Model (GWPR) produces smaller AIC value compared to Generalized Poisson Regression (GPR). The best model for the number of new cases of leprosy in Buton is Geographically Weighted Poisson Regression models (GWPR).

**Keywords : poisson regression, generalized, geographically weighted, leprosy**